

ABSTRACT OF THE DISCLOSURE

Switching and/or routing devices use separating diffraction gratings or AWG, a selectable switching and routing sub-system, and recombining diffraction gratings or AWG to overcome problems associated with insertion loss, size and compactness, switch isolation, switching speed, which may be present in current optical switching systems. The selectable switching and routing sub-system can include a switchable grating based sub-system or a switchable mirror based sub-system